

### REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-10 are pending in the application. Applicant respectfully traverses the rejections of the current Office Action.

#### Rejections of Record

On June 25, 2009 Applicant submitted a Response to the Final Office Action dated May 14, 2009. That Response wholly addressed the Rejections of Record. Accordingly, Applicant incorporates herein by reference the remarks and arguments of the Response filed on June 25, 2009. Accordingly, in addition to the comments presented herein, the Office is respectfully requested to refer to the Response filed June 25, 2009 when reevaluating the status of the current Rejections of Record.

#### Response to Advisory Action

The Applicant received an Advisory Action dated July 15, 2009. The Advisory Action set forth a number of assertions that the Applicant addresses in the following.

The Office states that it "is not clear how making the claimed first impedance small will allow the driver termination impedance to match the load impedance. The impedances R1, R2, ZS will affect the impedance seen by the load, but that is not the driver output impedance."

The Applicant does not dispute that that the impedances R1 and R2 will in *theory* "affect" the impedance seen by the load. However, the influence of those

impedances is negligible compared to the influence of the complex impedances (e.g., complex impedances  $Z_S$ ). As a matter of fact, the total impedance contribution by  $R_1$  and  $R_2$  is less than .5% of drive/termination impedance seen by the load. This fact is perhaps better appreciated if the Office understands the general ohm values of impedances  $R_1$ ,  $R_2$ , and  $Z_S$ .  $R_1$  and  $R_2$  are generally impedances in the 1-2 kilo-ohm range, where  $Z_S$  is generally in the single ohm range. Therefore, because the  $R_1$  and  $R_2$  impedances are 10-100 times larger than the impedance  $Z_S$ , the  $R_1$  and  $R_2$  impedances have negligible influence on the drive/termination impedance.

The Office maintains that  $k$  may not be determined because the "complete transmit and feedback path interface" is not shown or described. Applicant respectfully submits that one of ordinary skill in the art fully comprehends how to calculate  $k$  if the specifics of the implemented line driver are known. The instant Applicant is not specific to a particular type of line driver, so inverting, non-inverting and transimpedance line driver structures are not shown in the instant Application. However, in an effort to improve clarity, one exemplary formula for determining  $k$ , in accordance with the implementation illustrated in Fig. 2 of the instant Application, is  $k = 1 + (G_4)(G_5)$ , wherein  $G_4$  is the gain of transconductance amplifier 4 and  $G_5$  is the gain of transconductance amplifier 5.

The Office maintains that the ADSL lines change impedances many times due to POTS system, and these changes influence the load impedance. However, Applicant respectfully submits that this assertion is incorrect. In particular, there is always a splitter in between the ADSL and the POTS system. This splitter completely isolates the two systems. In other words, the impedance

changes in the POTS system are not visible to the ADSL system. Therefore, the POTS system does not influence the claimed k value.

Conclusion

In accordance with the foregoing remarks, Applicant believes that the pending claims are allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the below-indicated attorney.

Respectfully Submitted,  
SpryIP, LLC

Dated: October 14, 2009

By: /Tim R. Wyckoff/

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